

Bleeding efficiency and meat oxidative stability and microbiological quality of New Zealand white rabbits subjected to halal slaughter without stunning and gas stun-killing

ABSTRACT

A study was conducted to compare the effect of halal slaughter without stunning and gas stun killing followed by bleeding on residual blood content and storage stability of rabbit meat. Eighty male New Zealand white rabbits were divided into two groups of 40 animals each and subjected to either halal slaughter without stunning (HS) or gas stun-kill (GK). The volume of blood lost during exsanguination was measured. Residual blood was further quantified by determination of haemoglobin content in Longissimus lumborum (LL) muscle. Storage stability of the meat was evaluated by microbiological analysis and measuring lipid oxidation in terms of thiobarbituric acid reactive substances (TBARS). HS resulted in significantly higher blood loss than GK. HS had significantly lower residual haemoglobin in LL muscle compared to GK. Slaughter method had no effect on rabbit meat lipid oxidation at 0, 1, and 3 d postmortem. However, at 5 and 8 days of storage at 4°C, significant differences ($p<0.05$) were found, with meat from the GK group exhibiting significantly higher levels of MDA than that from HS. At day 3, greater growth of *Pseudomonas aeruginosa* and *E. coli* were observed in the GK group ($p<0.05$) with *B. thermosphacta* and total aerobic counts remained unaffected by slaughter method. At days 5 and 7 postmortem, bacterial counts for all tested microbes were affected by slaughter method, with GK exhibiting significantly higher growth than HS. It can be concluded that slaughter method can affect keeping quality of rabbit meat, and HS may be a favourable option compared to GK due to high bleed out.

Keyword: Rabbit; Halal slaughter; Gas stun kill; Residual blood; Storage stability